AMSAT SATELLITE REPORT

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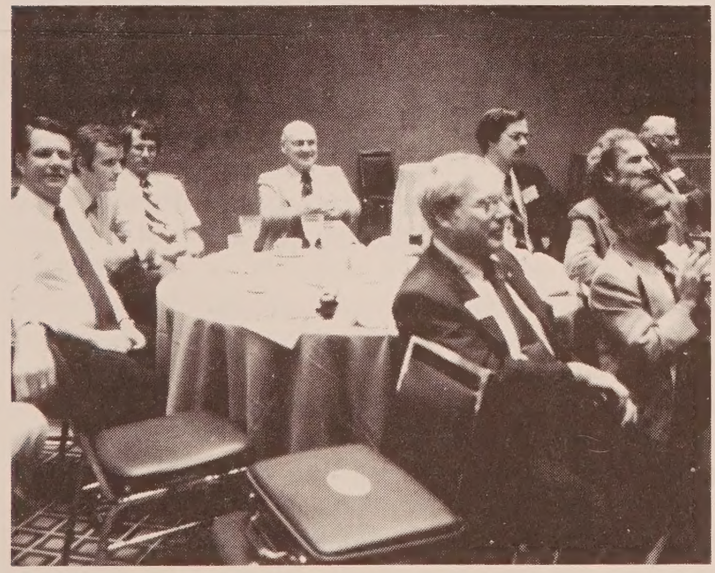
AFCEA Convention Includes AMSAT

In accord with the wishes of the AMSAT Board of Directors, for the first time AMSAT has participated in the annual National Convention of the Armed Forces Communications and Electronics Association (AFCEA). Though not connected with any military service, AMSAT has in the past relied on its excellent reputation with the military as a ticket for passage into orbit. (The majority of OSCARs have gone aloft as secondary payloads to vital military missions.) The Directors looked at exposure to AFCEA as in AMSAT's long term interests. Of special interest, as mentioned recently in these pages, is the possibility that AMSAT's Phase IIIC satellite may acquire a launch opportunity with launchers controlled by agencies well-represented at AFCEA.

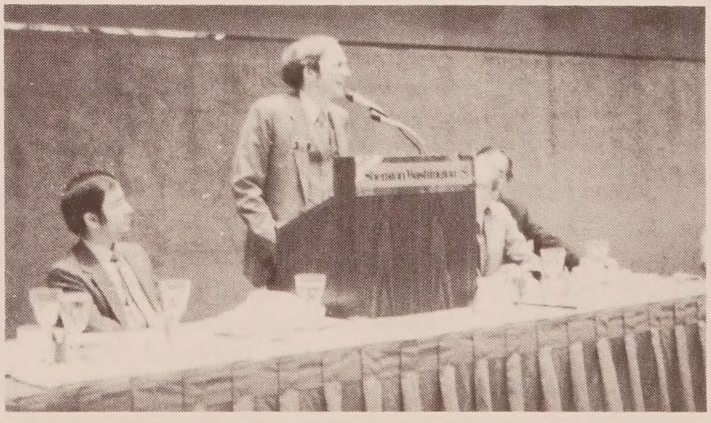
AMSAT's participation at the convention June 14-17 took three forms. Most obvious was the professional-appearing booth well-organized by Alternate Director W3XO, Bill Tynan and Office Manager Martha Saragovitz. Dozens of interested parties stopped by. Many left amazed and aware of AMSAT's mission and capabilities. AMSAT was well-represented at the Amateur Radio Luncheon where nearly 200 amateurs listened as Dr. Ted Cohen, N4XX, led a bright gathering through more than two hours of enjoyable repartee. Attending were leaders from industry, government and amateur radio. Finally, AMSAT officials further developed some embryonic relations with key government officials upon whom may depend future launch options.

The AMSAT booth at the convention. Here W3XO, Bill Tynan and Martha Saragovitz strike a pose. Bill organized the booth for AMSAT and Martha worked the booth for much of the three day convention.

AMSAT's presence at conventions of communicators, scientists and educators around the world is strongly endorsed. Assistance in arrranging for AMSAT's presence at these affairs may be obtained from AMSAT Headquarters or from any AMSAT Officer or Director. If you don't know how to contact them and don't know your AMSAT Area Coordinator, call or write to AMSAT at 301-589-6062 or P.O. Box 27, Washington, DC 20044.



AMSAT members listen to speaker at the luncheon. Clockwise from left are: W4RI, AMRAD President, Paul Rinaldo; KE3D, Gordon Hardman; W3GEY, Jan King; W6SP, AMSAT Chairman John Browning; K1HTV, Rich Zwirko; W4OWA, Bob Ruedisueli; K4YV, Roy Rosner; W3XO, Bill Tynan.



ARRL General Manager K1ZZ, Dave Sumner addresses the Amateur Radio Luncheon at the AFCEA Convention.

Portable J Station Takes Shape

AMSAT efforts to assemble a complete portable Mode J station took a step forward 19 June when the first equipment comprising the station was accepted by AMSAT.

The scene was the Flea Market at Dunellen, New Jersey. KJI Electronics proprietor Gene Niemiec, K3KJI, presented AMSAT with KLM antennas and accessories worth more than two hundred dollars. The 2-meter and 70-cm crossed yagis and circularity switches will become part of the Mode-J station that will be available to AMSAT Area Coordinators for live demonstrations at Hamfests and conventions around the country.

On a related note, Advanced Receiver Research has promised a new 70-cm GaAs FET preamp and Spectrum International has pledged a new Microwave Modules 2-meter-to-10-meter converter for the AMSAT Porta-J terminal.

To help promote the idea, AMSAT in *ASR* will be publishing a "Scoreboard" to show how we stand each issue in relation to our goal. Also, the appearance of the donor's name will help to inform our members who our supporters are in the commercial segment. Moreover, a large attractive sign will travel with the equipment to further credit our fine contributors. Our sincere thanks to KJI, ARR and SI. To paraphrase a World War II battlefield general's words: There are only two kinds of donors equipment dealers on this program; those who have donated to the AMSAT Porta-J terminal and those who are about to!

AMSAT now needs individuals to step forward who would like to build shipping containers for the terminal and those who will propose a custodial system for the Porta-J terminal. Contact WA2LQQ with your ideas.

With a handshake and a transfer of equipment the AMSAT Portable Mode J Station project is off and running. Shown here are (left) Gene, K2KJI, proprietor of KJI Electronics holding 2 KLM antennas he is about to present to WA2LQQ, AMSAT Executive Vice President, on behalf of AMSAT.

Summer Event Features OSCARs

Southern California will be the scene 3 July for a program of Amateur Satellite and vhf/uhf indoctrination when Project OSCAR and St. Timothy's Amateur Radio Club jointly sponsor the event. Starting at noon, the event will be held in San Diego at Reo and Rancho Hills Drives. Talk-in on 146.55. Further info from Doug, K6JEY at 714-475-1575.

Porta-J Scorecard

Equipment	Manufacturer	Donor
2-meter, 70-cm crossed Yagi antennas and accessories	KLM	KJI Electronics (K2KJI)
70-cm GaAs FET Preamp.	Advanced Receiver Research	Advanced Receiver Research (W1VD)
70-cm-to-10-M Converter and low-pass filter	Microwave Modules	Spectrum International (G3BVU)
10-meter receiver	(open)	(open)
2-meter transmitter	(open)	(open)
2-meter amplifier	(open)	(open)
12-volt power supply	(open)	(open)

ASR *Spotlight On: W4PUJ*

Here W4PUJ, the penultimate craftsman, works on the plumbing. These exquisitely crafted conduits are part of the valving of the liquid fuel kick motor of the Phase IIIB satellite. On these tubes, fittings and valves rides Phase IIIB's ability to reach the desired orbit from the Ariane-provided transfer ellipse.

Oftentimes persons who work at executive or other non-manual jobs acquire hobbies involving the arts, athletics, agronomy, astronomy, craftsmanship or what have you. Dick Daniels, W4PUJ, is not unusual in that he, as an executive, chose craftsmanship as an avocation. He *is* unusual in the extremely high quality of that craftsmanship.

The Cincinnati, Ohio, native was educated in the public schools there and elsewhere and went on to Purdue University and the University of Cincinnati. Later came Pennsylvania's prestigous Wharton School and a Master's Degree in Business Administration.

Dick's career with the business side of NASA began in 1961 and still continues. He and his wife live in Arlington, Virginia, and have a daughter in graduate school at Ohio Wesleyan. Their son is an undergraduate at the University of Richmond.

Dick's ham career began in Kankakee, Illinois, in the middle to late 1940's, although his first ham ticket, K8PAA, was not obtained until 1959 in Cleveland, Ohio. This seeming contradiction was brought on by something now almost forgotten—WERS, the War Emergency Radio Service. This involved a more-or-less ham-type operation on 112 mc, the old 2½ meter ham band. (MHz had not yet come into use.) Ham licenses were not required by WERS. Later, after a move to Virginia, Dick acquired the call W4DGU, but didn't use it much for his first 10 years at the nation's capital. Guns and gunsmithing were then the outlets for the craftsman's urge.

Dick at one time specialized in the 38/45, a fearsome piece of artillery made by boring out 38-caliber revolver cylinders to 45-caliber, and firing 45-caliber cartridges necked down to 38-caliber from it. One can readily understand that sloppy workmanship in this kind of pursuit would not be conducive to longevity.

Somewhere along the line, Dick also became a glider pilot. In 1969, Dick, now W4PUJ, started an academic year at Princeton University, picked up *QST* and read of the interesting things AMSAT was doing with satellites. On his return to the Washington area, he looked up Perry Klein and advised him that he, Dick, liked to work with his hands. Perry, no man to pass up a good bet, got Dick involved in the construction of OSCAR 6. So far, Dick has built the 2-meter to 10-meter repeaters on OSCARS 6, 7 and 8.

On the ill-fated Phase IIIA satellite, Dick was more or less a jack of all trades, with emphasis on the solid-fuel kick motor and its ignition system. On Phase IIIB, Dick is the expert on the liquid-fueled kick motor. The new bird will have its propulsion system fueled with the same arcane liquids as fuel the Ariane rocket.

Dick spent a week in July of 1981 going over the details of the propulsion system with Karl Meinzer in Marburg, West Germany, and will be a member of the propellant-loading detail at Kourou at the time of the Phase IIIB launch. But there is more than technical excellence to W4PUJ's role in the AMSAT scheme of things.

One of his AMSAT colleagues said "Dick thinks things out very carefully. If we get into a discussion or argument on something, he listens very carefully and is usually the last to speak. And he usually comes up with the correct answer. In fact, when Dick speaks, we know his answer is not merely good, but right."

So it is a little surprising to hear Dick's philosophy about the technological future, which is "too uncertain to permit planning very far ahead. It makes more sense to live from day to day and only plan about 24 hours ahead."

But regardless of the future, Dick is fully cognizant of the value of the past. He serves as a sort of unofficial archivist for AMSAT and has had numerous photos of AMSAT events published. Some of his work has appeared in *Aviation Week* and *Space Technology*.

AMSAT members and satellite users can be sure that their best interests are being well taken care of with "hard core" members like Dick Daniels devoting their best efforts to them.

A special tribute is due W8JLE, Bob Rogers, left, who drove from Troy, Ohio to Washington, D.C. to deliver the special display stand he and W8GQW built. In this Dayton Hamvention photo, the display case with TV monitor is seen behind Bob at left. That's Texan KO5I on the right listening to Bob make a point.

New AMSAT Organization Forms

AMSAT Sweden has formed recently and has selected a board. AMSAT Vice President for Operations Rich Zwirko, K1HTV, reports that the formation took place 24 April at an SSA meeting in Sweden. The board which has 7 members, has not announced the selection of officers or if there will be such a selection. Meanwhile, liaison with AMSAT-SM will be through Area Coordinator SM5KUX, Sigge Skarsfjell.

AMSAT-SM joins a growing list of AMSAT-related groups organized along national political boundary lines but sharing a common goal and several common resources. Several of these organizations have plans for future satellites of their own design and construction with varying degrees of international cooperation planned. Most prominent in this category are AMSAT Canada (in league with the U.S.'s Project OSCAR) with SYNCART and the ARSENE (RACE) group in France. Internal AMSAT discussions concerning the formation of a so-called super-group or world general amateur satellite council have for several years been at first promoted and then shelved. The formation of AMSAT-SM adds another variable to the equation. In any event, on behalf of all AMSAT affiliates near and far, WELCOME to AMSAT-SM!

W6CG Up And Well

W6CG has now recovered from his recent eye surgery and the unexpected side effects of (apparently) the anesthesia. Bud is particularly grateful to all those who sent him well-wishes. He wanted all to know the extent of his appreciation.

Phase III Operations Manual Progress Report

Dick Peacock, W2GFF, reports that the Phase III Operations Manual he is assembling is making excellent progress. Dick is acting as editor for a comprehensive manual which will provide practical instruction and information on how the Phase IIIB satellite works, specific operating techniques and tips as well as general considerations in using the new breed of satellite.

Authors who have contributed articles for the manual so far include W3GEY, N1DM, W8GQW, W4OWA, ZS1BI and W2GFF. Articles have been promised by WA5FXE, K4GSX, KO5I and K2ZRO.

Subject areas for which additional authors are required include: 1) Satellite Systems and Capabilities; 2) Operational Lifetime of the Satellite; 3) AMSAT Operations Organization; 4) Radar Tracking; 5) Monitoring Satellite Performance; 6) Detailed Operating Standards; 7) Miscellanous Appendices.

The undertaking by W2GFF is a huge task; one that few would have the ambition to try. But in this endeavor Dick has sought to bring to reality a document of potentially great utility to the anticipated thousands who will clamour for information within the year. This manual will, by design, answer many of the "How to" questions most likely asked by the neophyte as well as some veterans. In a larger sense the Phase III Operations Manual may be viewed as a sophisticated "Cookbook" on preparing the gourmet's Phase IIIB satellite QSO! In this sense the manual will mesh well with the new ARRL/K2UBC book "Satellite User's Handbook" due out later this year. The K2UBC handbook is the thoroughly revised and updated/expanded text of Marty Davidoff's (K2UBC) earlier work, "Using Satellites In The Classroom." The new Handbook deals with many of the science aspects of satellite use and develops basic theory in detail. It provides an excellent baseline for the satellite user and touches virtually every area an amateur would wish to know about concerning amateur satellites right through UoSAT-OSCAR 9 with general characteristics of Phase IIIB hardware and orbits. The W2GFF manual, on the other hand, provides specific operating and user guidance tailored exclusively for the Phase III user. With these two landmark documents in place the amateur satellite community will be in the best condition ever as regards consolidated theory and user manuals. The ARRL/K2UBC handbook is anticipated for late '82 with the W2GFF effort targeted for Spring '83 or shortly after Phase IIIB launch. QRX for further work on both.

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